

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

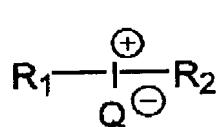
**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 2

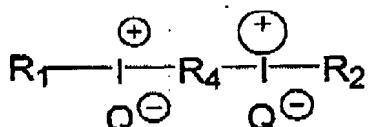


A) Amendments to the Claims:

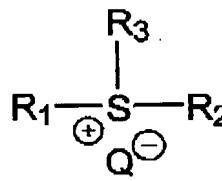
1. (currently amended) A method for producing an onium salt derivative, characterized by comprising reacting an onium salt derivative which has a halide Q as an anion moiety and which is represented by any one of formulas (1) through (4):



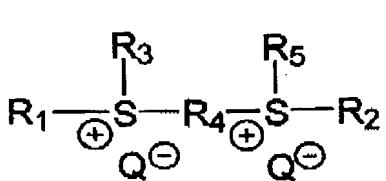
(1)



(2)



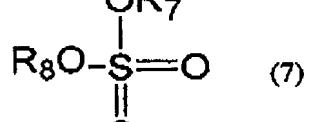
(3)



(4)

wherein each of R_1 , R_2 , R_3 , and R_5 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, an aromatic organic group, an aralkyl group, or a phenacyl group, each of these groups having ≤ 25 carbon atoms and being optionally substituted; one or both of the pairs of R_1 and R_3 , and R_2 and R_5 may together form a divalent organic group; R_4 represents a ≤ 20 divalent organic group; and Q represents a halide anion,

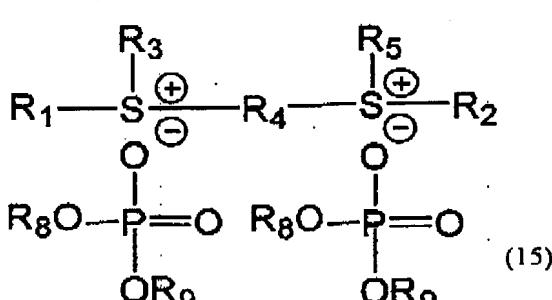
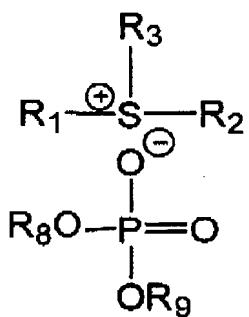
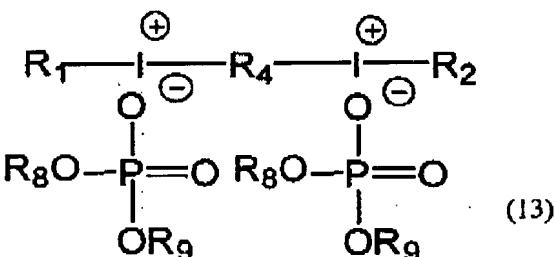
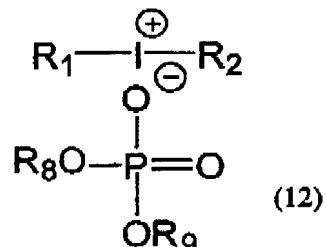
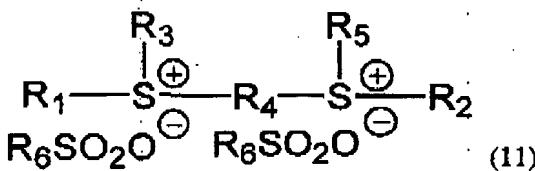
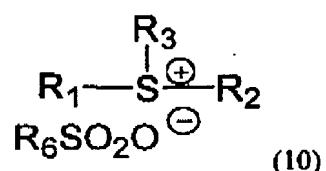
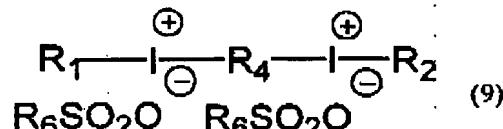
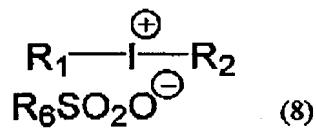
with an ester compound which has an alkyl group R , and which is represented by any one of formulas (5) through (7):



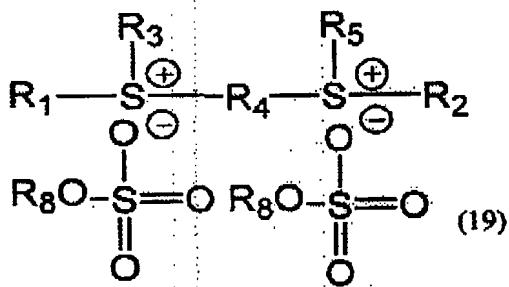
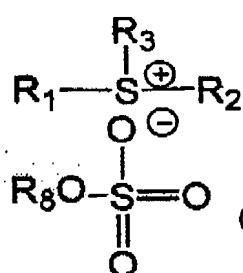
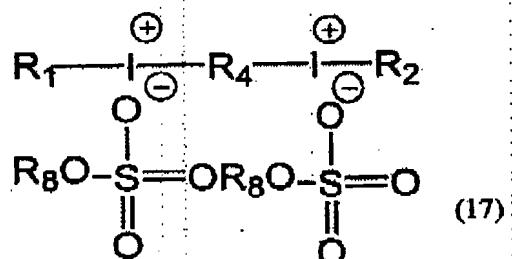
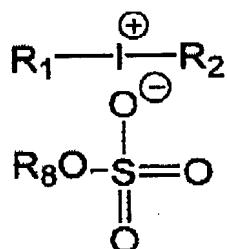
wherein R_6 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, an aromatic organic group, or an aralkyl group, each of these groups having ≤ 25 carbon atoms and being optionally substituted; R represents an alkyl group, having ≤ 5 carbon atoms and being optionally substituted; and each of R_8 and R_9 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, or an aralkyl group, each of these groups having ≤ 10 carbon atoms and being optionally substituted,

Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 3

to thereby form R₇Q through nucleophilic attack by the halide Q on the alkyl group R₇ of the ester compound, and to also produce an onium salt derivative which is formed of an anion represented by an any one of R₆SO₂O⁻, PO₄R₈R₉⁻, PO₄R₈R₉⁻, and R₈SO₄⁻ derived from the ester compound and an onium cation derived from the onium salt, an onium salt derivative represented by one of formulas (8) through (19).



Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 4



2. (cancelled)

3. (original) A method for producing an onium salt derivative according to claim 1, wherein reaction is carried out while removing generated R_8O from the reaction system.

4. (previously amended) A method for producing an onium salt derivative according to claim 1 or 3, wherein the reaction is carried out in a solvent.

5. (cancelled)

6. (cancelled)

7. (cancelled)

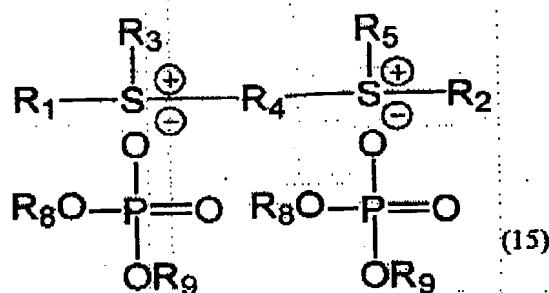
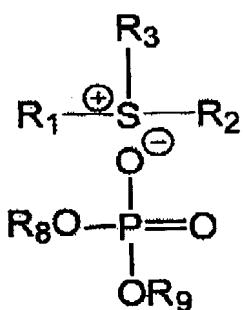
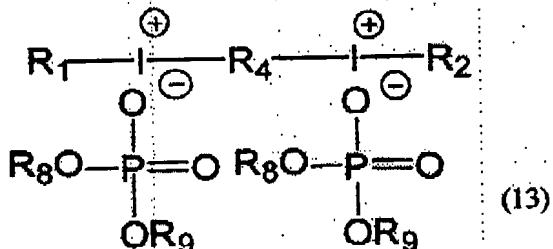
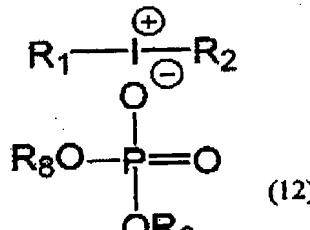
8. (cancelled)

9. (cancelled)

10. (cancelled)

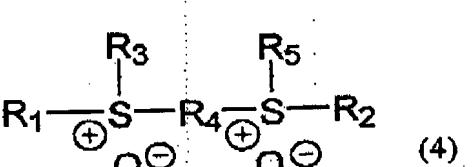
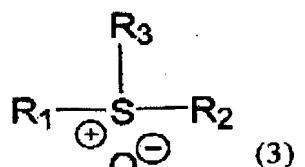
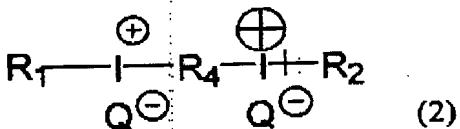
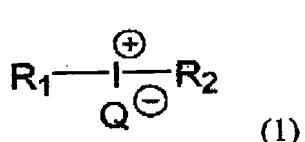
11. (previously amended) An onium compound which has a phosphate derivative as an anion moiety and which is represented by any one of formulas (12) through (15):

Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 5



wherein each of R_1 , R_2 , R_3 , and R_5 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, an aromatic organic group, an aralkyl group, or a phenacyl group, each of these groups having ≤ 25 carbon atoms and being optionally substituted; one or both of the pairs of R_1 and R_3 , and R_2 and R_5 may together form a divalent organic group; R_4 represents a $\text{C} \leq 20$ divalent organic group; and each of R_8 and R_9 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, or an aralkyl group, each of these groups having ≤ 10 carbon atoms and being optionally substituted.

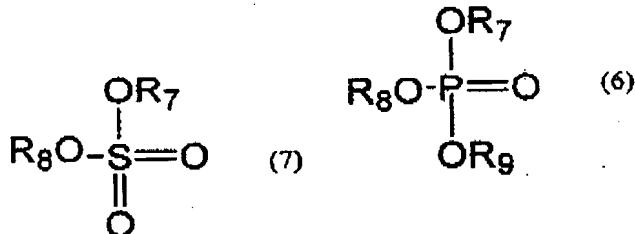
12. (currently amended) A method for producing an onium salt derivative, characterized by comprising reacting an onium salt which has a halide Q^- as an anion moiety and which is represented by any one of the following formulas (1) through (4):



Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 6

wherein each of R_1 , R_2 , R_3 , and R_5 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, an aromatic organic group, an aralkyl group, or a phenacyl group, each of these groups having ≤ 25 carbon atoms and being optionally substituted; one or both of the pairs of R_1 and R_3 , and R_2 and R_5 may together form a divalent organic group; R_4 represents a $C \leq 20$ divalent organic group; and Q represents a halide anion or a $C \leq 10$ carboxylate anion,

with an ester compound which has an alkyl group R_7 and which is represented by any one of formulas (6) or (7):



wherein R_7 represents an alkyl group, having ≤ 5 carbon atoms and being optionally substituted; and each of R_8 and R_9 represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, or an aralkyl group, each of these groups having ≤ 10 carbon atoms and being optionally substituted;

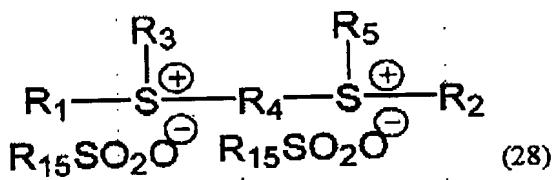
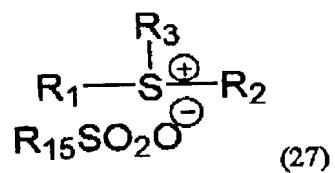
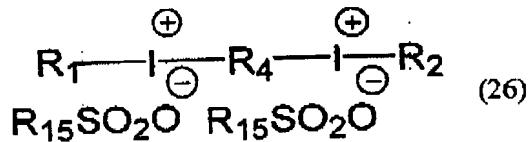
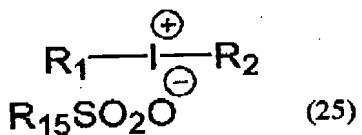
to thereby form R_7Q through nucleophilic attack by the halide Q on the alkyl group R_7 of the ester compound, and to also produce an onium salt derivative which is formed of an anion represented by an one of $\text{R}_8\text{SO}_2\text{O}^-$, $\text{PO}_4\text{R}_9\text{R}_9^-$, $\text{PO}_4\text{R}_8\text{R}_9^-$, and or R_8SO_4^- derived from the ester compound and an onium cation derived from the onium salt, ~~an~~; and reacting the onium salt derivative and with a sulfonic acid derivative represented by formula (24):



wherein R_{15} represents an alkyl group, a cycloalkyl group, a perfluoroalkyl group, an aromatic organic group, or an aralkyl group, each of these groups having ≤ 25 carbon atoms and being optionally substituted; and Y represents a hydrogen atom, an alkali metal, or ammonium,

to thereby cause salt exchange and yield an onium salt derivative represented by one of formulas (25) through (28).

Applicants: Kyoichi Tomita, et al.
04/28/2004
Page 7



13. (previously submitted) A method for producing an onium salt derivative according to claim 12, wherein each of R_7 , R_8 and R_9 is a methyl group or an ethyl group.